ESRC End of Award Report

For awards ending on or after 1 November 2009

This End of Award Report should be completed and submitted using the **grant reference** as the email subject, to **reportsofficer@esrc.ac.uk** on or before the due date.

The final instalment of the grant will not be paid until an End of Award Report is completed in full and accepted by ESRC.

Grant holders whose End of Award Report is overdue or incomplete will not be eligible for further ESRC funding until the Report is accepted. We reserve the right to recover a sum of the expenditure incurred on the grant if the End of Award Report is overdue. (Please see Section 5 of the ESRC Research Funding Guide for details.)

Please refer to the Guidance notes when completing this End of Award Report.

Grant Reference	**RES-000-22-4367**		
Grant Title	**Justice Motive Effects in Self-Punishment**		
Grant Start Date	**28 March 2011**	**Total Amount Expended:**	**£92,949.52**
Grant End Date	**27 June 2012**		
Grant holding Institution	**University of Essex**		
Grant Holder	**Mitchell J. Callan**		
Grant Holder's Contact Details	**Address**		**Email**
	Dept. of Psychology University of Essex CO4 3SQ		**mcallan@essex.ac.uk**
			Telephone
			01206 873817
Co-Investigators (as per project application):		**Institution**	
Aaron C. Kay		**Duke University**	

1. Non-technical summary

Please provide below a project summary written in non-technical language. The summary may be used by us to publicise your work and should explain the aims and findings of the project. *[Max 250 words]*

We leveraged Lerner's (1980) justice motive theory to investigate whether (a) experiencing bad breaks can lead people to adopt self-defeating beliefs and behaviours, and (b) beliefs about deserving bad outcomes in life underlie the relation between self-esteem and self-defeating beliefs and behaviours. In Studies 1a and 1b, participants who thought about or experienced bad

(vs. good) breaks devalued their self-esteem and felt more deserving of negative outcomes. In Study 2a, participants who experienced a bad (vs. good) break self-handicapped more (i.e., they claimed feeling tired, stressed, etc. ahead of an IQ test). In Study 2b, participants who recalled their bad (vs. good) breaks self-handicapped more and reported feeling more deserving of failing an IQ test only when they learned mitigating circumstances adversely affected test performance. Study 2c showed that failure (vs. success) feedback led participants to deem a subsequent bad (vs. good) break as more fair and reasonable. Study 3a showed that recalling bad (vs. good) breaks led participants to prefer that their friends evaluate them more negatively, and Study 3b showed that this effect occurred most strongly among participants who believed they deserved bad outcomes in life. Studies 4a and 4b showed that experiencing a bad (vs. good) break did not affect the degree to which participants were willing to self-administer electrical stimulations or taste hot sauce. Studies 5a and 5b, however, highlighted the important role that individual differences in beliefs about deserving bad outcomes in life play in the known link between self-esteem and self-defeating thoughts and behaviours.

2. Project overview

a) Objectives

Please state the aims and objectives of your project as outlined in your proposal to the us. *[Max 200 words]*

The primary objective is to generate empirical evidence for the idea that the concern for justice and deservingness is one psychological mechanism that underlies self-punishing beliefs and behaviours. To achieve this objective, we will conduct 5 experiments with the following objectives:

1. To replicate and extend previous research showing that people may devalue their self-worth following experiences of random bad breaks. Importantly, this study will extend this previous work by seeking evidence for the prediction that people will feel less deserving of positive outcomes following the experience of a random misfortune.

2. To seek evidence for the notion that people may be moved enough by random misfortunes to inflict physical harm upon themselves. Study 3 in particular seeks to test the role that justice motivation plays in self-harming by experimentally manipulating the perceived fairness of the social world. That is, to the extent that self-harming following a random misfortune originates from the motive to believe the world is fair and non-random, affirming that the world is a just place after all should decrease the willingness to self-harm.

3. To seek evidence for the role that justice motivation plays in self-sabotage and the desire to fail by employing different experimental methods than Studies 1 to 3. Study 4 will seek evidence for the idea that perceptions of deserving to fail a self-relevant test mediate the effect of a random misfortune on self-sabotage (and particularly when mitigating circumstances matter). Study 5 aims to provide further evidence of our justice motive account of self-punishment by investigating whether an experience of failing can lead people to deem a subsequent random misfortune as fair.

4. We will disseminate the results of our research to the wider academic and practitioner community. This will be achieved by publishing the findings in top, peer-reviewed journals and presenting the results at social psychology and clinical psychology conferences and research seminars.

b) Project Changes

Please describe any changes made to the original aims and objectives, and confirm that these were agreed with us. Please also detail any changes to the grant holder's institutional affiliation, project staffing or funding. *[Max 200 words]*

There were no changes made to the original aims and objectives. In light of the ongoing findings of the project, we did, however, expand upon and modify our research methods to further achieve the overall goals of the project—that is, to investigate the role that concerns about deservingness play in self-defeating beliefs and behaviours. We did so by adopting additional methods (e.g., self-punishment paradigm, recalling bad/good breaks, negative appraisals by close others) and sampling techniques (e.g., online samples) that complemented our programme of research well beyond the scope of the original proposal (see Methodology section below). For Study 2a, we opted for a verbal reasoning task that would (a) fit more closely to people's common experiences of intelligence tests and (b) result in a negative correlation between self-esteem and self-handicapping (which was confirmed in Study 2b).

There were no changes to the grant holder's institutional affiliation, project staffing, or funding.

c) Methodology

Please describe the methodology that you employed in the project. Please also note any ethical issues that arose during the course of the work, the effects of this and any action taken. *[Max 500 words]*

Study 1a: As an incentive for completing a personality survey, 74 participants approached around campus had the chance to win or "lose" £3 in a "Peel n' Reveal" lottery (PnR; all participants were paid £3). Next, they completed the Rosenberg (1965) state-self-esteem (SE) scale, a scale measuring their beliefs about deserving bad outcomes in life (e.g., "Right now, I do not feel deserving of positive outcomes"), and the Positive Affect Negative Affect Schedule (PANAS; Watson et al., 1988).

Study 1b: 218 participants recruited online through Amazon's Mechanical Turk recalled 4 good breaks or 4 bad breaks (Gaucher et al., 2010). They then completed the measures used in Study 1a.

Study 2a: 60 participants were approached around campus to complete a study on "non-verbal reasoning". They first experienced a good or bad break via the PnR. Next, before completing a short IQ test, they were asked to indicate how tired, alert, well-rested, focused, and stressed they felt, and how many hours of sleep they had (our measure of self-handicapping).

Study 2b: Was similar to Study 2a but was conducted online, included pre-measured SE as a covariate, and participants recalled good or bad breaks ($N = 367$). Participants learned either

that mitigating circumstances (e.g., being tired) mattered or not for IQ test performance. We also assessed participants' beliefs about deserving to fail the test.

Study 2c: Through a false feedback paradigm, 83 laboratory participants learned that they had relatively higher or lower IQ. They then completed another "study" and experienced a good or bad break via the PnR. They were asked to rate the fairness/reasonableness of the PnR procedure.

Study 3a: 85 laboratory participants first completed a self-attributes questionnaire (Pelham & Swann, 1989) and then recalled good or bad breaks. Next, they rated how they would prefer their friends to view them on the same attributes and generally.

Study 3b: Was similar to Study 3a but was conducted online, included the Rosenberg SE scale as a pre-measure, assessed participants' beliefs about deserving bad outcomes in life, and included a different measure of people's preference for how they want others to view them (e.g., "I want others to have a positive attitude toward me"; $N = 216$).

Studies 4a-4b: 55 participants experienced a bad or good break (complete a boring task or not). Using "electrical stimulation" equipment in front of them, participants were asked to identify 3 levels of electrical stimulation from 0-100V they would be willing to self-administer (participants did not actually experience stimulations). In **Study 4b**, 60 participants experienced a good or bad break via the PnR and were asked to choose hot sauces to taste.

Study 5a: In an online sample, 139 participants completed questionnaires assessing their SE, deservingness of bad outcomes, thoughts of self-harm, depression, and self-handicapping (Jones & Rhodewalt, 1982).

Study 5b: Lab and online participants completed a SE scale and the deservingness of bad outcomes measure ($N = 180$). Next, they completed a non-verbal reasoning test, during which they were given the chance to reward or punish themselves if they believed they got an answer right or wrong.

d) Project Findings

Please summarise the findings of the project, referring where appropriate to outputs recorded on the ESRC website. Any future research plans should also be identified. *[Max 500 words]*

Study 1a: Participants who "lost" (vs. won) the PnR reported lower state self-esteem and felt more deserving of bad outcomes. The PnR did not significantly affect positive or negative affect.

Study 1b: Participants who recalled bad (vs. good) breaks reported lower self-esteem and felt more deserving of bad outcomes. Recalling bad (vs. good) breaks also significantly affected negative affect (but not positive affect).

Study 2a: Participants who experienced a bad (vs. good) break self-handicapped more ahead of the non-verbal reasoning test.

Study 2b: SE and self-handicapping were significantly correlated. Controlling for premeasured SE, analyses revealed significant Recalled Breaks (good vs. bad) X Mitigating Circumstances (matter vs. do not matter) interaction effects for self-handicapping and beliefs about deserving

to fail the test. Follow-up analyses showed that recalling bad (vs. good) breaks affected self-handicapping and deserving to fail in the predicted directions when mitigating circumstances mattered, but not when mitigating circumstances did not matter. Moderated mediation analyses showed that perceived deservingness significantly mediated the effect of breaks on self-handicapping only when mitigating circumstances mattered.

Study 2c: Analysis revealed a False Feedback (failure vs. success) X Experienced Break (good vs. bad) interaction for the perceived fairness/reasonableness of the PnR procedure. The pattern of results was such that participants who were told they scored low (vs. high) on the IQ test rated the PnR procedure as more fair/reasonable when they experienced a bad break. The opposite pattern was observed for participants who experienced a good break.

Study 3a: Participants' self-appraisals correlated with how they wanted their close friends to view them. Importantly, these analyses showed that controlling for self-appraisals, participants who recalled bad breaks preferred that their friends perceived them less favourably than participants who recalled good breaks.

Study 3b: The effects of recalling bad (vs. good) breaks on how participants wanted others to evaluate them was moderated by their beliefs about deserving bad outcomes in life. Recalling bad (vs. good) breaks led participants to want others to evaluate them less favourably only among participants who more strongly believed they deserved bad outcomes in life. Moreover, deservingness beliefs significantly mediated the relation between SE and preferred appraisals by others.

Studies 4a and 4b: Experiencing a bad (vs. good) break did not significantly affect the level of electrical stimulation participants were willing to self-administer. In **Study 4b**, the PnR procedure did not affect the hotness of hot sauce participants were willing to taste.

Study 5a: Beliefs about deserving bad outcomes in life correlated significantly with self-esteem, self-handicapping, severity of depression (Patient Health Questionnaire-8), and thoughts of self-harm. Importantly, deservingness beliefs significantly mediated the relation between self-esteem and self-handicapping and self-esteem and thoughts of self-harm.

Study 5b: Beliefs about deserving bad outcomes in life significantly correlated with self-punishment during the non-verbal reasoning test, such that the more participants believed they deserved bad outcomes in life, the more often they chose to receive negative feedback about their test performance. Self-esteem also significantly correlated with self-punishment. Deservingness significantly mediated the relation between self-esteem and self-punishment.

e) Contributions to wider ESRC initiatives (eg Research Programmes or Networks)

If your project was part of a wider ESRC initiative, please describe your contributions to the initiative's objectives and activities and note any effect on your project resulting from participation. *[Max. 200 words]*

n/a

3. Early and anticipated impacts

a) Summary of Impacts to date

Please summarise any impacts of the project to date, referring where appropriate to associated outputs recorded on the Research Outcomes System (ROS). This should include both scientific impacts (relevant to the academic community) and economic and societal impacts (relevant to broader society). The impact can be relevant to any organisation, community or individual. *[Max. 400 words]*

i) Data from Studies 1a, 2a, and 2b above were presented at the Society for Personality and Social Psychology Conference in San Diego, USA (January, 2012). This presentation is available on the Research Outcomes System.

ii) We are currently preparing a manuscript reporting the results of our research. We are aiming to submit the multiple study manuscript to a top journal in psychology (e.g., *Journal of Personality and Social Psychology*, *Journal of Experimental Psychology: General*). Publishing our results in a top journal will help increase the academic impact our research.

iii) As we outlined in our Pathways to Impact, we plan to disseminate our findings to clinical psychology researchers and practitioners. We applied to present our findings at the 2012 British Psychological Society Division of Clinical Psychology Annual Conference, but our abstract was not accepted for presentation. We are currently considering presenting our data in a different format at the conference (e.g., poster), or at a future BPS conference in order to reach clinical psychology researchers at the national level. To reach a broader audience of clinical psychologists, we are aiming to present the project findings at one of American Psychological Association Annual Conferences in the future (Honolulu, 2013; Washington, 2014). We are also planning to present the project findings during one of the regular clinical psychology research seminars in the School of Health and Human Sciences (HHS) at the University of Essex (these seminars are attended by clinical trainees, researchers, and practitioners). Presenting at the HHS seminar will help facilitate possible future collaborations with clinical researchers and practitioners within the School.

b) Anticipated/Potential Future Impacts

Please outline any anticipated or potential impacts (scientific or economic and societal) that you believe your project might have in future. *[Max. 200 words]*

We found that beliefs about deserving bad outcomes in life subserve a variety of self-defeating beliefs and behaviours (e.g., self-handicapping, thoughts of self-harm). Thus, we anticipate that our project will have impact because the findings shed light on beliefs and behaviours that are of interest to a variety of researchers and practitioners (e.g., social, clinical). Further, we have already started to consider other related avenues of research as a result of our project findings (e.g., we are planning studies to further investigate whether believing that one deserves bad outcomes in life mediates the known link between lower self-esteem and negative feedback seeking).

In the longer-term, our findings might also have impact on clinical psychology practice by leading to more effective intervention and treatment strategies. For example, helping clients understand how their concerns about personal deservingness influence their self-defeating beliefs and behaviours might be an effective strategy to reduce depressive symptoms.

You will be asked to complete an ESRC Impact Report 12 months after the end date of your award. The Impact Report will ask for details of any impacts that have arisen since the completion of the End of Award Report.

4. Declarations

Please ensure that sections A, B and C below are completed and signed by the appropriate individuals. The End of Award Report will not be accepted unless all sections are signed. Please note hard copies are **not** required; electronic signatures are accepted and should be used.

A: To be completed by Grant Holder

Please read the following statements. Tick **one** statement under ii) and iii), then sign with an electronic signature at the end of the section (this should be an image of your actual signature).

i) The Project

This Report is an accurate overview of the project, its findings and impacts. All co-investigators named in the proposal to ESRC or appointed subsequently have seen and approved the Report.	☒

ii) Submissions to the Research Outcomes System (ROS)

Output and impact information has been submitted to the Research Outcomes System. Details of any future outputs and impacts will be submitted as soon as they become available.	☒
or	
This grant has not yet produced any outputs or impacts. Details of any future outputs and impacts will be submitted to the Research Outcomes System as soon as they become available.	☐

iii) Submission of Datasets

Datasets arising from this grant have been offered for deposit with the Economic and Social Data Service.	☒
or	
Datasets that were anticipated in the grant proposal have not been produced and the Economic and Social Data Service has been notified.	☐
or	
No datasets were proposed or produced from this grant.	☐

Signature:

Name: Mitchell J. Callan   **Date: 15/08/2012**

B: To be completed by Head of Department, School or Faculty

Please read the statement below then sign with an electronic signature to confirm your agreement.

This Report is an accurate overview of the project, its findings and impacts.

Signature:

Name: Prof. Debi Roberson

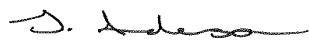**Position: Research Director, Dept of Psychology**   **Date: 18/09/2012**

C: To be completed by Finance Officer of Grant-Holding Research Organisation

Please read the statement below then sign with an electronic signature to confirm your agreement.

ESRC funds have been used in accordance with the ESRC Research Funding Guide. All co-investigators named in the proposal to ESRC or appointed subsequently have seen and approved the Report.

Signature:

Name: Shereen Anderson

Position: Deputy Director – Research Support   **Date: 18/09/2012**